3:Gt. Brit. . Colonial Office G-3 (1938) 1940 MM1 Aden MM1

[377] The standby electricity generating set was used once each week 653 and generates enough energy to run two bore-hole pumps, giving approximately 17,000 gallons per hour.

376 (2) *Reservoirs and Tanks.*—These comprise 11 steel plate tanks 312 and two masonry reservoirs situated over the distribution system.

(3) *New Bore-hole Pump.*—A new type of bore-hole pump, in which both the electric motor and the pump are lowered into the bore-hole and run submerged was purchased and installed in bore No. 3 at a cost of Rs. 11,925.

The pump has not been entirely satisfactory as sand in the water has caused damage to the pump and motor bearings. It is considered that it proved, however, that the supply of water from the bores can be increased, without affecting the underground storage level. During a continuous test of 22 days, 8,976,000 gallons of water were raised from bore No. 3 without lowering the normal rest level.

312 (4) *Distribution.*—The water-supply to the Fortress was uninter-
365 rupted during the year, and no restriction whatever in the use of water was imposed on the general public.

Owing to the Electricity Department being unable to cope with
365 the great demand for energy between the hours of 6 p.m. and 10 p.m.,
377 pumping at Sheikh Othman and Isthmus was restricted during
505 these hours. Owing to the existing storage capacity of the reservoirs, this restriction was applied only to the shipping companies refilling their water boats for supplies to shipping during these four hours. In practice very little inconvenience was caused.

312 (5) *Storage Capacity.*—The present storage capacity of the
365 Waterworks Department is as follows:—

		Gallons.	*Approximate total hours Domestic supply.*
			hours.
(i) Sheikh—Civil Supply ...		195,000	27
Othman—Supply to R.A.F.		37,000	12
(ii) Fortress	Isthmus ...	400,000	64
	Johar Ridge ...	129,000	42
	Crater ...	216,000	36
	Tawahi ...	96,000	30
Total Storage Capacity		1,073,000	

The total hours supply figures are based on the assumption that in time of emergency the supply to gardens and shipping would be stopped.

(6) *Water Connections.*—The total number of water connections to different premises in Aden is 2,595. The number of new connections made during 1938 was 549 compared with 417 for the previous year.

5:Gt. Brit., Colonial Office G-3 (1947) 1949 MM1 Aden MM1

was fortunate to have a medical officer with special knowledge of this branch of medicine.

Lack of replacements and absence of officers on leave threw increased responsibilities and work on the remainder of the Medical and Health Staff.

Welfare

The Welfare Officer for whom provision appeared in the Estimates was not appointed, but a locally born Assistant Welfare Officer was appointed after spending two years in the United Kingdom studying social welfare.

Details of activities of other Government Departments will be found in Part II of this Report under appropriate chapters.

PRISONS

Until the riots broke out in early December there had been a welcome decrease in the prison population. This had amounted to 24 per cent. during the first 10 months of the year, in comparison with the corresponding period in 1946.

At the beginning of the year the installation of an improved system of sanitation throughout the prison, which was begun in 1946, was completed. Increased facilities for the segregation of prisoners were provided, and substantial repairs and alterations to many of the prison buildings effected. The kitchen was remodelled and enlarged.

Throughout the year the health of the prisoners was satisfactory, and discipline well maintained.

ELECTRICITY DEPARTMENT

Two generating sets were completely overhauled by a Metro-Vickers erection engineer.

New sub-stations were erected at Ras Boradli, Maidan Crater, and Maalla.

Shortage of materials prevented any large-scale changeover from overhead to underground cables, but the Maalla area was cleared of overhead high-tension lines to release ground for building purposes.

Further details will be found in Part II.

COMMUNICATIONS

Civil Aviation

During the year the Crown Counsel, because of his personal qualifications, was appointed Director of Civil Aviation in addition to his normal duties.

Negotiations with the Royal Air Force to obtain joint-user rights at Khormaksar resulted in successful agreement. A separate civil enclave will be built at Khormaksar to the east of the Sheikh Othman road, just south of the main east-west runway.

During 1947 temporary licences were granted to Ethiopian Airlines,

7: Gt. Brit., Colonial Office G-3 (1949-50) 1951 MM1 Aden mml

697 [344] There is one prison only and no camps. The prison buildings are enclosed in a spacious and airy compound, surrounded by a high stone wall and they consist of an administration block and widely spaced and well-ventilated dormitories, cells, a kitchen and a hospital.

There are six superior cells exclusively for the accommodation of "A" and "B" Class prisoners. Special attention is paid to cleanliness and sanitation and a high standard in both is maintained.

The general state of health of all prisoners has been satisfactory. There was no outbreak of any serious illness. Venereal diseases, contracted before admission to the prison, were common among the prisoners.

A Medical Officer from the Civil Hospital attended the prison dispensary daily and was assisted by a full-time hospital assistant. Prisoners reporting sick were treated at the prison hospital, but cases needing immediate attention were admitted to the civil hospital.

There were six deaths from natural causes, four in the civil hospital and two in prison. Due to the lack of accommodation at the civil hospital, cases of pulmonary tuberculosis were treated in the prison sick-bay. Of the four cases, two died, one was cured and one is making a steady progress.

The official and non-official visitors of the Prison Board visited the prison regularly. His Excellency the Governor paid four visits to the prison during the years under report. All prisoners were given complete freedom of access to the visitors and every opportunity to register complaints or to ventilate any grievances.

There is, as yet, no system of probation or of welfare for discharged prisoners.

Chapter 10: Public Utilities and Public Works

365 377 The water and electricity supply services are publicly owned and are operated by the Public Works Department.

WATER AND DRAINAGE

312 365 Prior to 1928 the domestic water supply of Aden was derived almost entirely from condensed sea water. From 1924 to 1928 experimental boreholes were sunk at Sheikh Othman and potable water was found in two thin layers of sand gravels at 136 feet and 208 feet respectively below the surface.

Since 1928 fifteen additional boreholes (including five in 1948) have been sunk, and the following table shows the increase in consumption :

	1936	1941	1949	1950
	(*all figures in million gallons*)			
Total water raised from boreholes	205	353	680	711
Water consumed by civil population	45	115	208	235

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Water sold to shipping.. ..	18	65	69	73
Water consumed by Military ..	25	96	139	158
Water used in gardens ..	76	52	161	142
Other purposes including water unaccounted for	41	25	103	103

The water is pumped direct from the boreholes into reservoirs and gravitates through a 15 in. diameter pipeline 7 miles in length into the Isthmus, where it is pumped into service reservoirs and distributed to the various parts of the Colony by gravitational mains, of which there are over 28 miles of varying diameter from 9 in. to 2½ in. The total capacity of the reservoirs in the Colony at present is 2,965,000 gallons. A new 3-million-gallon reservoir above the Main Pass is under construction and will be completed in 1952.

All supplies are metered and at the end of 1950 over 6,330 domestic water meters were in use. Six hundred and thirty-four new connections were given in 1949, and 674 in 1950.

The cost of water to the general public is 4 annas less 10 per cent per 100 gallons (approximately 3s. 3d. per thousand gallons). The revenue derived from the sale of water during 1949 and 1950 was Rs. 16,15,649 (£121,173) and the total expenditure was Rs. 12,21,898 (£91,642).

Six per cent of the total water used by the general public is supplied free of charge from 32 standposts erected in various parts of the Colony.

Although the water at source is of a very high standard of purity bacteriologically, to combat any possible pollution through dust or any other agency it is automatically chlorinated.

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The maintenance and provision of new sewers is the responsibility of the Public Works Department, but the cleaning of sewers is carried out by the Public Health Department. All sewage discharges into the sea through five separate outfalls extending to just below low water mark. At Sheikh Othman, small primary settling tanks have been constructed, but there are no sewage disposal works.

In order to minimise fouling of the harbour and beaches, all water closets are required to discharge into the sewers through a septic tank, where all solid matter is first liquified.

ELECTRICITY SUPPLY

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Electricity as a public utility was first introduced into Aden in 1926, when the power house was completed, and three 330 kva generating sets with oil-fired steam boilers and necessary auxiliary plant were erected.

The station was subsequently enlarged, and at the end of 1947, three turbo generators of 1,200 kw., 1,200 kw. and 750kw. respectively, with boilers of a steaming capacity of 47,000 lb. per hour were installed. In addition, two 250 kw. generators powered by diesel engines are available in an emergency.

The installation of the stand-by diesel generator (250 kw.) at Sheikh

7: Gt. Brit., Colonial Office G-3 (1949-50) 1951 MM1 Aden MM1

365 377 Othman was completed and it has already proved its worth in maintaining the water supply during maintenance work on the electric supply lines.

The Air Ministry stand-by station at Cross-ways is now in commission and is in a position to relieve the Department of the load in the areas of Barrack Hill, Gold Mohur, R.A.F. Hospital and Tarshyne; this will make available more electricity for civilian needs during the summer period.

The Air Ministry Directorate General of Works stand-by-generators carry most of the military load at peak hours, and their co-operation is much appreciated.

The existing generating plant, although now showing the results of continuous loading is still holding out under a heavy maintenance programme.

The supply is generated at 6,600 volts pressure and stepped down by means of transformers to 400 volts. All domestic supplies are at 230 volts.

The average load in the station during 1949 was 1,095 kwh. and during 1950 was 1,145 kwh. The peak load reached 1,710 kwh. in 1949 and 1,850 kwh. in 1950.

Consumers at the end of 1950 numbered 4,800 compared with 3,412 at the end of 1948. There are still 1,000 waiting for supply.

The following table shows electricity generation and revenue in 1948, 1949 and 1950:

	1948	1949	1950
Units generated ..	8,599,899	9,609,830	10,063,085
Units sold	7,106,428	7,987,886	8,144,368
Station load factor ..	—	64·8%	62·0%
Total revenue from sales of current	Rs. 13,04,202	Rs. 14,33,887	Rs. 15,10,630

Owing to the large increase in population, it has become necessary to erect a new power station and the necessary orders for two 5,000-kw. generators and two 60,000-lb. boilers have already been placed. In the meantime the replacement of feeder lines is being carried out to a plan to tie in with the new station and so avoid as much delay as possible when the new station goes into production.

Plans have been agreed for a development of the high tension distribution system, which is being steadily brought into commission beginning with Crater where 40 per cent of the peak load is consumed.

In the meantime the distribution system has been improved by laying underground cables in the Tawahi and Steamer Point areas, with a new sub-station for the latter. Further sub-stations are being put into commission in Crater. Underground cables have also been laid in Crater and Maalla and will considerably improve distribution in these areas. The removal of the old overhead lines will improve the localities and avoid the dangers attendant on this method of distribution and also release land for building purposes.

7: Gt. Brit., Colonial Office G-3 (1949-50) 1951 MM1 Aden MM1

The street lighting in the Crescent and Secretariat areas has been improved by the provision of fluorescent lighting of the latest type. In other areas the street lighting has been extended. [373] 365 377

The cost of electricity to the general public is 5 as. per unit for lighting and fans, and 2 as. per unit for refrigerators. The power rates for industrial purposes vary with the amount used and whether or not condensers are fitted to the motors. The average rate however is approximately 2·87 annas per unit in 1949 and 2·95 annas per unit in 1950 (an anna is 1·125 pence).

PUBLIC WORKS

New Buildings

The principal Government works or buildings completed in 1949 and 1950 are listed below : 653

By Contractors

24 houses in the Aidroos Valley Crater.
24 quarters for Police, Khormaksar.
New Police Station, Khormaksar.
2 primary schools for girls, Crater.
Primary school for boys, Crater.
3 expatriate and eleven staff quarters for Aden College.

By the Department

160 working-class houses, Sheikh Othman.
New Customs, Salt and Excise Office, Steamer Point.
5 houses for senior Government officials, Khormaksar.
Tuberculosis ward for 40 patients, Civil Hospital.
New record room and upper storey, Treasury Office.
Conversion of the marine craft unit camp into lines for the coal coolies, Maalla.
Upper storey over Barrack Nos. 2 and 3 Armed Police Lines, Crater.
Technical College Workshop, Maalla.
Extension to both boys' and girls' primary schools, Sheikh Othman.
Four extra class rooms, Boys' Primary School, Maalla.

Architect's Department

During 1950 the Architect's Department was strengthend by the arrival of an Assistant Architect from the United Kingdom and an Architectural Draughtsman from India, but shortage of trained staff is still a problem. 653 341

Schemes have been prepared and are now under consideration by Government for extensions to the Maternity Clinic, Crater, the new telephone exchange building, Maalla, and the building for the Government printing press, Tawahi. The Surveyor has carried out a large number of surveys in various parts of the Colony connected with proposed future building operations, but he too is handicapped by lack of staff.